



Looking for an alternative bioscience career path? Consider a Department of Energy national laboratory

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When I was a postdoc in the late 1970s at the University of Wisconsin-Madison, a colleague mentioned at lunch one day that her husband, a nuclear physicist, was spending the next couple weeks at Los Alamos National Laboratory doing experiments. I was surprised to hear that there was research going on there, as I associated Los Alamos — the “Secret City” — with the Manhattan Project, and really hadn’t thought much about it since high school or college in a history class. After that discussion, I assumed it was a place for physicists to do research.

Several years later, as I was contemplating jobs, I learned about an opening in neuroscience in the Life Sciences Division at Los Alamos. I was curious about why Los Alamos would be hiring biologists. I came to understand more about the long history of the life sciences at Los Alamos, which began shortly after the Manhattan Project, to study the health effects of radiation. Soon after, I learned that the Department of Energy (DOE) had [17 national laboratories](#) and that they all had active science programs, mostly in the physical sciences; but a few had life science programs, also with origins in studying health effects of radiation.

I follow a lot of young bioscientists on social media, and I’ve observed their uncertainties about whether an academic career is what they really want. There is definitely a lot of pressure on getting tenure, and balancing research with teaching is a struggle. During the past several months or so, teaching remotely — in some cases while juggling the needs of one’s own family during the quarantine — has also put undue stress on early career academicians.

A career in industry is a popular alternative to an academic career; but in industry, your activities will be very prescribed by the business portfolio and the bottom line. You will not have the freedom to chase down a new idea unless you can make a strong business case for it; and, of course, teaching will not be part of your industry job. Careers in science journalism and communication are popular alternatives now; but such a career move will likely mean giving up both teaching and research.

A bioscience career path at a national laboratory can offer an alternative that is midway between academia and industry. Your main role will be writing grant proposals and conducting R&D, and the R&D will lean more towards applied research rather than basic research. You will typically have opportunities to collaborate with academic

researchers and researchers in industry. If you enjoy teaching and mentoring, Los Alamos and the other DOE national labs have a vibrant student intern and postdoctoral program.

Los Alamos is a diverse organization, and is committed to increasing diversity in its scientific staff. From the perspective of my 35 year-career at Los Alamos I have the following takeaways about what unique features a bioscience career at a national lab has to offer:

Agility: Throughout my career I have had the ability, as well as the encouragement, to pivot to a new research direction; or move from an R&D/scientist track to a management track. Being able to move through the organization in different roles has provided me with a 360-degree view of research and leadership within my organization.

Collaboration: Peer-to-peer collaboration across disciplines has been at the heart of my career, and is a unique hallmark of the bioscience work that we do at Los Alamos. Although cross-disciplinary collaborations are possible in academia and industry, here they are actively promoted and expected.

National service: Bioscience has been elevated in the national discussion over the past several months because of the COVID-19 pandemic. The Los Alamos bioscience program is making significant contributions to research addressing all aspects of this health crisis. Over my career I have had the privilege of working on a wide range of projects in the biosciences including innovative flow cytometry and cell sorting applications; the Human Genome Project; human health effects of radiation and beryllium exposure; technology for bioforensics; and algae biotechnology. Moving from project to project as national needs change is not a typical path for career success, but it has been the most rewarding aspect of my career.

There is more than one way to have a fulfilling career as a bioscientist. If you question whether a traditional career in academia is right for you, and industry seems too big of a jump, I urge you to explore opportunities at the DOE national labs. Los Alamos or any of the other national labs may be the alternative bioscience career path you were looking for.

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